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THE MARITIME MEDICAL NEWS

A MONTHLY JOURNAL DEVOTED TO
MEDICINE & SURGERY

VOL. XIX.

HALIFAX, NOVA SCOTIA, APRIL, 1907.

No. 4

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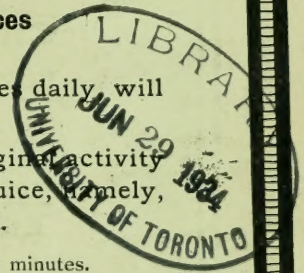
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CONTENTS FOR APRIL, 1907

THE WORLD OF MEDICINE	- - - - -	121
CANCER OF THE UTERUS.		
BACTERIAL INFECTIONS OF DIGESTIVE TRACT.		
PREVENTION OF DISEASE.		
URINARY NITROGEN.		
DIAGO REACTION IN TUBERCULOSIS.		
THE PRETUBERCULAR STAGE.		
FORENSIC EXAMINATION OF THE BLOOD.		
EXTIRPATION OF OVARIES.		
CATHOLICITY OF MEDICINE.		
FOLIA UROLOGICA.		
A MUSEUM OF SECURITY.		
SEPARATION OF JOINED TWINS.		
THE CAUSE AND CURE OF CANCER.		
EDITORIAL.	- - - - -	127
THE PASSING OF A QUACK.		
THE NOVA SCOTIA PUBLIC HEALTH ASSOCIATION.		
THE MEDICAL INSPECTION OF SCHOOLS.		
CLINICAL REFLEXES, BY O. J. McCULLY, M. D., ST. JOHN, N. B.	- - -	129
SCHOOLHOUSE CONSTRUCTION, BY HERBERT E. GATES, HALIFAX, N. S.	-	134
DISEASE AMONG PUPILS IN PUBLIC SCHOOLS, BY A. McKAY, SUPERVISOR OF SCHOOLS, HALIFAX, N. S.	- - - - -	137
INFLUENZA, BY A. E. PORTER, M. D., OXFORD, N. S.	- - - - -	143
VARICELLA AND VARIOLA, BY RUSSELL WITHERS, M. D., ANNAPOLIS ROYAL, N. S.		150
SCHOOL HYGIENE, BY HENRY M. CLAY, M. D., PUGWASH, N. S.	- - - - -	152
SEWERAGE, BY J. A. JOHNSON, DEPUTY MAYOR OF HALIFAX, N. S.	- - - - -	153
CORRESPONDENCE	- - - - -	155
LETTER FROM DR. PARISH, LIVERPOOL, N. S.		
SOCIETY MEETINGS	- - - - -	157
CUMBERLAND MEDICAL SOCIETY.		
OBITUARY.	- - - - -	158
DR. J. E. MARCH, ST. JOHN, N. B.		
DR. M. A. SHEFFIELD, ST. JOHN, N. B.		

THE MARITIME MEDICAL NEWS is a monthly magazine devoted to the interests of the medical profession. Communications of general and local professional interest will be gladly received from friends everywhere. Manuscript for publication should be legibly written in ink (or typewritten, if possible) on one side only of white paper. All manuscripts and correspondence relative to letter press should be addressed to The Editors, MARITIME MEDICAL NEWS, P. O. Box 341, Halifax, N.S.

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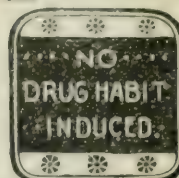
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THE MARITIME MEDICAL NEWS

VOL. XIX, APRIL, 1907, No. 4.

Cancer of Uterus.

Dr. Ely Van de Waiker
writing on "Inoperable
Cancer of the Uterus,"

in the *Monthly Cyclopaedia of Practical Medicine*, for November, 1906, agrees with Zykoff's conclusions, that seventy-five per cent. of patients with cancer of the womb are no longer operable when they reach the physician. One half of these die within the course of a year, but it is our duty to relieve their sufferings during that time.

Prolonged surgical operations are badly borne by the subjects of malignant disease. The rapid recurrence of the disease is to be attributed to the afferent vessels diffusing the cancer-cells more readily than when under a normal degree of tension. A minimum of time should be consumed in these operations, and a method adopted that shall induce the least possible vital depression.

When the disease has invaded the anterior vaginal wall, and a band of induration appears in the posterior cul-de-sac, while the uterus is firmly fixed in the pelvic space, and a fungus protrusion, bleeding at the slightest touch, presents at the cervix, the radical surgeon is not slow to pronounce the woman's doom. In such cases as these, the greatest good may be accomplished. It is almost a crime to turn such cases away without making an effort to give relief. Here we may accomplish greater good than by the radical operation which often shows such delusive hopes for cure. By appropriate treatment suffering

may be relieved, life prolonged, and, not least for good, the death-bed made sweet and clean.

A sharp curette with a stiff shank will remove the zone of cancerous debris. This is the surface that gives a rapid hæmorrhage during its removal; but when removed and the zone of indurated cancer infiltration is reached, the hæmorrhage at once abates. With the curette the zone of infiltration is penetrated as deeply as possible. A few spouting vessels may need to be caught by artery forceps. Next, attack any indurated masses in the vaginal walls near the cervix by removing the mucous membrane and opening up the spaces of cancer infiltration. There is a deep crater left, which was formerly the cavity of the cervix. The edges of this are ragged, and are pared away to the junction of the vaginal wall. A few rapidly-bleeding points are exposed in doing this, which are quickly controlled by pressure; then pack the crater and the vaginal surface, which has been attacked by the curette, with pledgets of cotton saturated with a fifty-per-cent. solution of persulphate of iron, forced in firmly at every point. This is to mumify the surface and to prepare it to absorb greedily an aqueous solution of the chemical cautery.

The iron packing is so firmly cemented in that it may require two days before it can be removed. When it is removed a solution of equal parts of zinc chloride and water is applied to

the surface on small flakes of absorbent cotton wrung as dry as possible from the zinc solution. This is packed firmly into the cervical crater and upon the vaginal surface which has been acted upon by the curette. The vagina and the urethral prominence must be protected from the action of the zinc solution; otherwise sloughs will form there, to the great discomfort of the patient. To protect her as much as possible, a pomade of 25 per cent. vaseline and bicarbonate of soda, which decomposes the zinc chloride, is freely applied to the vulva and the vaginal wall. This completes the operation. A few of the superficial layers of the zinc cotton may be taken away in a couple of days. In three or four all may be removed. Beyond lies a layer of firm, hard slough. For this to separate may require from seven to ten days; but, no matter how long it takes, traction to remove it must not be attempted. It will be thrown off spontaneously, and when it is found lying loose in the vagina, a slough from half to nearly an inch in thickness may be removed. An enormous cavity is left in the uterus and the vaginal vault, but one of the most surprising things about it is the rapidity with which its walls collapse and the speed of the repair.

From a practical point of view, one of the best features of this method is that it may be repeated many times. The patient must remain under observation, and when at any time a small fungoid growth appears in the line of cicatrization the curette will remove it without pain. The iron may be applied, followed by the zinc solution. Sometimes it is so small that a single pledget will suffice, while the slough is cast off without the patient going to bed.

Dr. DeWarker has nursed quite a number of these cases along six or seven years by this method, and what is nearly as good as prolonging life, is the fact that the disease may never return in an aggressive form to the uterine or vaginal surface, but the malignant germs are translated to other organs, and death occurs from metastasis. The death bed is thus relieved from the horrors of putrescence.

*

Bacterial In- An elaborate abstract of
fections of Di- the Harvey Society lec-
gestive Tract. ture is contributed by
C. A. Herter to the *Journal of the American Medical Association*, of March 23. In this paper Herter describes the bacterial flora of the human digestive tract and its effects on the organism. He does not find anything conclusive in the experimental studies as to the necessity of bacterial action in the digestive tract for the maintenance of health in the higher mammals. The obligate bacteria of the intestines are not ordinarily harmful to man and their value to him is probably in checking the development of the more injurious ones. Herter discusses the effect of aerobic and anaerobic condition, and shows that the larger number of anaerobic organisms are found in the large intestine, where there is most pronounced evidence of intestinal putrefactive action. The conditions are not the same at all ages. In infancy there are fewer bacterial species and these vary somewhat in bottle-fed and breast-fed infants. During childhood and adolescence there is a gradual change, and in later adult life the number of putrefactive anaerobes is increased, and, while the general health may not appear to suffer markedly, there is more or less intoxication from putrefactive processes

which aid in bringing on senility. The differences of individual susceptibility and the effects of various putrefactive products are discussed. Some of these, such as ammonia, putrescin and cadaverin, are produced in such small quantities as hardly to be of much importance. Others, such as the sulphur compounds, phenol, cresol, skatol, and indol, are of more importance, and may produce observable toxic effects. The individual cellular reaction of the patient is probably more responsible than the poison for the differences and effects sometimes observed in individuals, as in the idiosyncracies observed in different patients in certain kinds of foods. Herter suggests the recognition of three types of chronic excessive intestinal putrefaction, viz., the indolic type, marked by striking indicanuria; the saccharobutyric type, due apparently to the anaërobic forms; and the combined type of the two former. In the latter there is more rapid advance of invalidism than in either of the other two. There are earlier and more prominent nervous symptoms, mental depression, and irritability, and quick fatigue, sometimes ending in a picture of pernicious anæmia or pronounced melancholia. The therapeutic indications at first, avoidance of reinfection by special attention to the diet and care of mouth and teeth; second, the aiding of digestion; and third, the reduction of putrefactive organisms in the colon. The prognosis is least hopeful in neurotics, and best when the condition is obviously due to gross errors in life which can be corrected.

*

Prevention of Disease.

Edward E. Field, writing in the *Medical Record*, of March 9, divides communicable diseases into two classes: those diseases caused by

animal parasites, and those caused by bacteria. It is necessary to class under the head of bacterial diseases many whose specific germs have not yet been isolated, but whose symptoms and course so closely resemble this class as to prevent their being grouped elsewhere. The writer calls attention to milk as being a fruitful source of infection in a number of the communicable diseases. The most careful attention should be given to the milk supply. Flies are carriers of infection; so are fleas, bedbugs, and so on. Such insects should be excluded from houses as far as possible. In regard to epidemics, public gatherings should be prevented during these scourges. Schools should be carefully watched for communicable diseases. In epidemics of cholera, plague or yellow fever, the federal government should take charge of all cases and be given the authority to stamp out the disease and to regulate travel.

*

Urinary Nitrogen.

An article contributed by J. Ewing and C. G. L. Wolf, to the *American Journal of Obstetrics*, for March, deals with "The Clinical Significance of the Urinary Nitrogen: the Metabolism in the Toxæmia of Pregnancy." The writers conclude that the study of the urinary nitrogen is of practical value in determining the existence and the gravity of a toxic state, and may point out the proper line of treatment. It may demonstrate abnormal metabolism in the absence of other symptoms, and thus afford a basis for prophylaxis of serious complications. Moreover, it may enable one to distinguish between a chronic nephritis and a condition signifying impending eclampsia. Of course the information thus given

should be considered in connection with other clinical data, and the interpretation of the urinary findings should be modified accordingly.

Diazo Reaction in Tuberculosis. In a paper entitled "The Prognostic Value of the Diazo Reaction in Tuberculosis, with Interesting Observations as to Social Differences in Whites and Blacks," appearing in the *Medical Record*, for March 23, John Roy Williams presents the following conclusions deduced from his observations: For the sake of accuracy, if the fresh specimen fails to give the diazo reaction, the urine should be allowed to stand for twenty four hours and be examined again. After the test has been made, if the foam fails to show the reaction, the mixture should be allowed to stand for twenty-four hours to see if there is or is not formed a greenish precipitate. As a rule, the absence of a diazo reaction in the case of white tuberculosis patients is of a favourable prognosis. The presence of a diazo reaction in the case of white tuberculosis patients is of an unfavourable prognostic value. The absence of the diazo reaction in the tuberculous negro is of no prognostic value. There is possibly a racial difference between the whites and blacks, which accounts for the absence of the diazo reaction in the urine of the tuberculous negro and the presence of this reaction in the urine of the white tuberculous patient in the advanced stage.

The Pretubercular Stage. In an article entitled "The Pretubercular Stage of Consumption," appearing in the *Journal of the American Medical Association*, of March 16, C. F. Beeson calls attention to the earliest symptoms of pul-

monary tuberculosis before the physical and rational symptoms have become fully manifest. After noticing the usually recognized characteristics of the phthisical predisposition, he mentions as the signs of incipient consumption an over brightness of the eyes, with possibly slight inequality of the pupils due to reflex of the ciliary nerve from apical irritation, brittleness of the hair, variable and uncertain appetite, fluctuations in body weight, quick fatigue, subnormal morning temperatures slowly reached by the thermometer, chest pains, frequent clearing of the throat and husky expiratory cough; there may be a bluish tinge to the lips or an unusual redness of the gum margins. Careful inspection may reveal deficient expansion of one or the other apex, or the Litten shadow may not fall as it should. A prolonged expiratory sound may be heard at or near the apex, and there is sometimes also a fine laryngeal crepitus to be heard by placing the ear near the open mouth of the patient. Sooner or later a slight hæmorrhage or a prolonged "cold" will startle the patient and what he, and too often his physician, considers the starting point of pulmonary tuberculosis.

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Forensic Examination of the Blood. In an article entitled "The Specific Solubility and Its Application in Forensic Examination of the Blood," contributed to *Muenchener medizinische Wochenschrift*, of February 19th, Dehne presents the following summary of his conclusions. (1). As specific solubility he denotes the fact first discovered by L. Michaelis, that specific clouds and precipitates are soluble in the excess of the homologous undiluted serum, with the dependent inhibition phenomenon. (2).

The application of this test with positive results of Uhlenhuth's reaction affords greater proof to this procedure in forensic practice. (3). With the aid of the specific solubility it can be determined from what kind of animal the blood came, even when the traces of blood are very slight. (4). Clots in a heterologous serum are soluble only in the excess of the same heterologous and in homologous sera, but not in any other heterologous serum.

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Extirpation of Ovaries. In an article entitled "Should the Ovaries be Removed when Hysterectomy or Removal of the Body of the Uterus is Done?" which appears in the *American Journal of Obstetrics*, for March, J. W. Bovée declares that the existence of an ovarian secretion has not been proved, and cannot therefore contraindicate oophorectomy. He favours the removal of the ovaries when the uterus or its body is removed for disease in women who are past forty years of age. This appears prudent in view of the fact that evidences of malignancy are found in five per cent. of the cases of uterine fibroids operated on, while in thirty per cent. of the cases marked complication of the appendages is found. When malignant disease of the uterus indicates radical surgery, the extirpation of the ovaries is imperative. When ovarian growths of a bilateral nature complicate hysterectomy, both the ovaries should be removed. The indications for removal of the ovaries in connection with partial or complete hysterectomy are increasing rather than diminishing.

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Catholicity of Medicine. Medicine appropriates everything from every source that can be of the slightest use to anybody who is ailing in any way or likely to be ailing from

any cause. It learned from a monk how to use antimony, from a Jesuit how to cure agues, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy-maid how to prevent small-pox, and from an old market-woman how to catch the itch insect. It borrowed acupuncture and the moxa from the Japanese heathen, and was taught the use of lobelia by the American savage. It stands ready to-day to accept anything from any theorist, from any empiric who can make out a good case for his discovery or his remedy.—OLIVER WENDELL HOLMES.

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Folia Urologica. With Professor James Israel of Berlin, as Editor-in-Chief, Professor A. Kollmann, of Leipzig, Dr. G. Kulisch, of Halle, and Dr. W. Tamms of Leipzig, as Associate Editors, and the other principal urologists of Europe as collaborators, these international archives are announced by the house of W. Klinkhardt, Leipzig. Exhaustive original articles with colored plates and illustrations will be the principal feature of *Folia Urologica*. Contributions will be published in the four languages that are officially used in Congresses, and each paper will be summarized in the three other languages. The new publication will contain a department called "Events in Urology," in which the regular collaborators will periodically report of the advances of this specialty, after having tested them critically in their respective services and laboratories. Finally *Folia Urologica* is to serve as a means of collecting the Annual Reports on urological work in hospitals, clinics, etc., throughout the world. With a view to publishing contributions as quickly

as possible, the issues of *Folia Urologica* will appear as often as required. Contributions from North, Central and South American authors may be sent to either of the American Editorial Representatives, William N. Wishard, M. D., Newton-Claypool Building, Indianapolis, Ind., or Ferd. C. Valentine, 171 West 71st Street, New York.

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A Museum of Security.

The Exposition of Safety Devices and Industrial Hygiene held last winter by the American Institute of Social Service, in New York, is to be made a permanent Museum of Security.

The Institute has received from Dr. Sommerfeld, a physician and scientist of Berlin, a valuable anti-tuberculosis exhibit for the department of industrial hygiene in this Museum. There are 45 vials containing as many different kinds of dust, mineral, animal and vegetable, produced in our various industries. The same number of photographs show how these various dusts appear under the microscope. Extremely realistic models in wax, coloured to life, represent human lungs as they are affected by occupational dusts. Other models show normal lungs for comparison; while still others show the effects of industrial poisons on the system.

Separation of Joined Twins

Charles F. Kieffer, (*Medical Record*, April 6th,) relates the history of an African, now sixty-six years old, born on board a slave ship, as one of joined twins. The mother died after a cesarean section by the ship surgeon. This surgeon also separated the twins, of whom the other died. In the scar over the sternum at the point of separation began a keloid, which, at the age of eight years, had to be removed.

and returned, but not to become thick. Later other keloids formed, of which one is especially mentioned as appearing over the right temple and parietal region, of large size, which has once been removed, but has returned and now shows signs of malignant degeneration.

The Cause and Cure of Cancer

Arthur C. Jacobson, (*Medical Record*, April 6th,) advances a new theory as to the causation of cancer. Parasites may be concerned in the causation of cancer by means of local irritation that they produce, but only thus. The carcinomatous growth is a result of perverted growth, or perverted physiological growth. At the degenerative period of life, when atrophy of the sexual organs occurs, physiological energy that is produced in the body finds itself at a loss for an outlet. This energy goes to produce cancerous overgrowths. Peoples that produce less energy, like the inhabitants of Bermuda, Persia, and the East, are less apt to have cancer. Coley's results with toxins may depend on the engagement and diversion of this energy. For the etiology of benign growths the author postulates Cohnheim's theory, trauma, or parasites producing the irritation. For the etiology of malignant growths a further source is needed—perverted energy. Spontaneous disappearance of cancer would be due to readjustment of the energy of the economy. Young healthy individuals cannot be inoculated because the fundamental factor, perverted energy is wanting. This accounts for the metamorphoses of benign into malignant growths. Radical extirpation of cancer is not enough because the perverted energy still exists, causing recurrence. When cancer occurs in the young it is due to sexual anomalies with maladjustment of energy.

The Passing of a Quack.

The late lamented Mr. P. T. Barnum did more than organize a crowning joy for the youth of all sizes. As an additional benefaction he has handed down to posterity a trite saying to the effect that the majority of the human kind derive a definite and pleasurable satisfaction in being made the innocent or even willing victims of deception. Mr. Barnum was so thoroughly convinced of the accuracy of his dictum that he consistently and insistently made practical application of it, to the boundless delight of the multitude, and incidently to the material enlargement of his financial resource. But he practised his buncom in a quiet and inoffensive way, with perfect honesty of purpose, and he has left a memory singularly free from unpleasant associations.

The death of John Alexander Dowie has removed from the world stage one of the most picturesque humbugs who ever played a part. It is doubtful if, in all the long list of impostors, there was a greater than Dowie. Certainly no one was more successful in advertising himself to the world at large; none attracted more attention, accomplished more imposition, or acquired a greater pecuniary reward. Aided by a somewhat imposing presence, he was able by sheer mendacity and impudent effrontery to impress a large following of gullible neurotics with the belief that he possessed divine powers, even going so far as to represent himself as the reincarnation of the Prophet Elijah. The deception which this arch-quack practiced stands in conspicuous and unfavourable contrast to that of the genial and versatile Barnum. The latter made no endeavour to conceal his motive, but Dowie, assuming clerical

garb, and arrogating to himself miraculous powers as a healer, did not hesitate to prostitute the name of religion, or to sacrifice the health or even the life of his victims in order to further his ends.

We can have nothing but contempt for one whose success depended upon so lamentable an absence of scruple. But we marvel at the man's accomplishment, and in spite of what Barnum told us, of the eagerness with which many people submitted themselves to be duped by him. His career was a very chequered one, and on many occasions his zeal exceeded his discretion, and he was brought before the courts. He had sufficient wit, however, to turn such incidents to good account, and by impressing his followers with the fancy that he was being persecuted, he linked them more firmly to him.

Perhaps the most notable of his many spectacular ventures was the founding of Zion City, where, for a time, a population of over 50,000 were dominated by him in most despotic fashion. By the sale of land to his followers, he is said to have netted a profit of more than \$12,000,000, and his vigorous application of the doctrine of tithes, added materially to his wealth. His extravagances became so great, however, that his fortune rapidly crumbled away.

Of recent years his behaviour was so erratic that many questioned his sanity. It is more than probable, however, that he realized the desperate character of the game he was playing, and deemed it advisable to dissemble in the hope of maintaining part at least of his position.

Claiming Divine power in the healing of sickness, he would permit none of his followers to submit themselves to the treatment of a physician. In Zion City he would grant leases

only on the condition that the premises should never be used, among other things, for a pharmacy or drug store, or as the office or residence of a practising physician or surgeon. He made the most preposterous claims as a leader, and, following the example set by certain popular shrines, decorated his church with discarded crutches and appliances of various kinds. He denounced physicians in no measured terms, but he was impartial in this respect, and hurled invectives at the Christian Scientists and other followers after strange gods.

That so palpable an impostor could gain such tremendous influence over a large number of very intelligent people, seems quite incomprehensible. But similar instances have been recorded of all ages, and the puzzle is likely to be one over which the psychologists of the far future will still have to ponder.

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The Nova Scotia Public Health Association.

The successful organization of this institution, which we confidently anticipate will prove to be of the distinctest benefit to the province, is due almost, if not quite solely to the energy and pertinacity of that veteran member of our profession, Dr. A. P. Reid—a man who seemingly cannot grow old, and whose cheery industry and bright optimism make him a continual inspiration to his associates. In his capacity of Chief Health Officer of the province, Dr. Reid has rendered a service very much greater than is generally recognized. He has obtained for us more modern and **more workable health laws** than we have ever had before, and he has put the public health service of the province upon a basis which must be ad-

mitted to be wonderfully efficient, when the small money outlay is taken into account. His interests have been many and varied, and he has been able to turn to practical account an immense amount of information gathered from the most varied sources.

The Public Health Association asks for its membership all those who desire to aid in improving the health of the public generally. At the organization meeting some of the most important papers were contributed by men who do not belong to the medical profession. These various papers we hope to be able to present in our columns from time to time, and we confidently anticipate that they will give our readers much pleasure. Many of them were of a high order of excellence, and provoked interesting and profitable discussions.

We trust that the new organization will have a very successful career, and bespeak for it the hearty commendation and co-operation of the medical profession of the province.

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The Medical Inspection of Schools.

In the present issue there appears a thoughtful and timely article on the "Medical Inspection of Schools," which was read at the organization meeting of the Nova Scotia Public Health Association, by Supervisor McKay, of the Halifax city schools. We have very great pleasure in directing the attention of our readers to this important deliverance. The fact that it expresses the opinion of a non-medical writer, adds to the interest which we are sure it must create. The principle advocated by Mr. McKay is one which will undoubtedly meet with the warm approval of the medical profession.

CLINICAL REFLEXES.

By O. J. McCULLY, M. D.,

St. John, N. B.

(Read before St. John Medical Society.)

CLINICAL reflexes are of much import to every physician and surgeon, for whether his practice includes both surgery and medicine, or is confined to one only, or is limited to a specialty of the narrowest range, diseases of the brain and spinal cord must frequently come under his notice, either directly or in differential diagnosis from other lesions. Again the study of clinical reflexes has been particularly active during the last few years, and a year does not pass now but three or four new reflexes of more or less import are added to the list, so that in reading an exhaustive clinical report of some disease of the brain or spinal cord, we are almost sure to come across the name of some reflex which we have not seen referred to before.

Therefore it is that I do not feel I need offer any apology for talking for a short time on clinical reflexes, for by so doing I may impart some new information to some, or at least may refresh some one's memory on this important subject.

Now, gentlemen, I do not pretend that the remarks which I am about to make are due in any way to any research on my part, or are at all original, but this is simply an attempt to enumerate briefly all the clinical reflexes associated with the skin and muscles which are considered of value up to the present time; to describe them as briefly as possible; and to speak also of some of those conditions which are now held to modify such well-known reflexes as the knee jerk.

By a clinical reflex we mean an involuntary contraction of a muscle or a group of muscles brought about by the stimulation of certain sensory fibres. This presupposes a reflex arc, in which the impression is carried to the central nervous system by sensory nerves, and back to the muscle by motor nerves. This, however, does not explain all the phenomena in connection with reflexes. Thus in the knee jerk the arc is completed in the third and fourth segments of the lumbar spine. We should not expect any modification of this reflex by any lesions existing above this. But we find that complete destruction of cord above this often causes complete loss of this reflex, and in a few cases it is even exaggerated. There has been an attempt to explain this by supposing the existence of a second arc above this, but here again there are certain phenomena we meet with which cannot be thus explained, and perhaps the most reasonable solution is that given by von Strumpell, who says, "That these reflex movements are vestiges of the complex coordinated reflexes of the lower animals which in human beings, as a result of the increase in the central motor activities at the expense of the spinal motor activities, have been reduced to insignificant and apparently purposeless movements." Thus it is when the central controlling influence is removed, the reflexes become exaggerated. In confirmation of this, Silberlini has shown that the time which elapses from the application of the stimulus till the contraction of the

muscles is shorter in apes and idiots than in healthy man.

Reflexes have been classified in a great many different ways, but the one which is the simplest and at the same time includes them all, is into skin or superficial and deep or tendon reflexes. Under superficial reflexes we will first mention the Babinski.

The Babinski is no doubt the most important of the modern reflexes. This is reproduced by stroking with the fingers or some blunt object on either the inside or outside of the foot in a longitudinal direction. It may be only elicited by using a sharper instrument, and by some force. In the normal person there is usually flexion of the toes, but when the Babinski is present, there is a slow upward extension of the great toe. Sometimes the other toes do the same, at other times they do not.

We frequently have a sudden dorsal flexion of the great toe in functional nervous diseases, but this is not regarded as the Babinski.

There is often in Friedreich's ataxia a permanent extension of the great toe which is not to be regarded as the true Babinski.

This phenomenon is common in infants under two years of age, and therefore is to be regarded as of no significance before that age. The Babinski is significant of disease of the pyramidal tract, and is as reliable an index to disease there, as the knee jerk or ankle clonus. It generally comes on earlier and lasts longer than either of these. The arc is completed in the lower sacral vertebræ.

The plantar reflex is produced by tickling the sole of the foot, when there is in almost all persons in health a flexion of the toes on the foot, of the foot on the ankle, of the leg on the thigh, and of the thigh on the body.

The arc is completed in the lumbar and the three upper sacral vertebræ.

In functional nervous diseases it is increased, and may occur in the other leg at the same time, and may even bring on a general convulsion. Central organic disease generally increases it. It is lost in peripheral sensory paralysis.

There are only two reflexes of any importance in connection with the trunk, and they are both skin reflexes; the abdominal and cremasteric.

The abdominal is produced by stroke of the hand from the bottom of the sternum downward and outward over the abdominal muscles. This is produced by stimulation of the terminals of the intercostal nerves. The arc is completed in the dorsal vertebræ. It is increased in neurasthenia and hysteria. It is lost in destructive lesions of the dorsal spine, and often serves to locate the exact spot of the lesion. It is generally increased in tabes. It is lost in peripheral paralysis of the abdomen.

The cremasteric is produced by pinching the skin on the inside of the thigh, about an inch below Poupart's ligament, when, if present, there will be a sudden jerking up of the testicle on that side, independent of any contraction of the scrotum, which should not be mistaken for it. When we realize that many persons have voluntary control, and elevate the testicle as they wish, and that in a very large number of normal persons this reflex is absent, we find it not a reflex of any real import. It is, however, increased in the various functional nervous diseases, and in spastic hemiplegia, and it is lost in tabes.

In connection with the trunk, von Bechterew has described a hypogastric, a pyramidalis, a scapulo-humeral, and an iliac reflex, but on account of their inconstant action

they are regarded by other investigators of no clinical significance.

The deeper reflexes may again be divided into those of the head, arm and leg.

Those of the head are McCarthy's reflex, Chvostek's sign, the malar, and the chin-jerk.

McCarthy's reflex consists in a slight twitching of the outer half of the orbicularis palpebrarum when percussion is made on the supra-orbital nerve as it issues out of the supra-orbital notch. When we remember that this muscle is supplied with sensation by the suborbital, and gets its motion from the facial, we can understand that this reflex would be lost in destructive injury to the supra-orbital nerve, and in peripheral facial paralysis. In cases of central nervous lesions usually no alteration takes place.

Chvostek's sign consists of a contraction of the muscles of the corner of the mouth, of the ala of the nose, and of the orbicularis, when the trunk of the facial nerve is struck as it winds around the ramus of the lower jaw. This reflex is strictly pathological, and is pathognomonic of all cases of true tetany. It is also frequently found in cases of tetany associated with pregnancy and dilatation of the stomach.

The malar reflex is produced by percussion over the malar bone by all the fingers of the hand, and consists of an elevation of the outer angle of the mouth, and movement of the ala of the nose. In normal states this produces no muscular movement, only a slight superficial twitching of the skin at upper part of the outer angle. In facial paralysis of central origin, the reflex is well marked, and the movements are comparatively quick. In facial paralysis of peripheral origin, at first the reflex is well

marked, but as the degeneration continues the movements become sluggish, and when the degeneration is complete it is lost altogether.

The chin-jerk, which is produced by tapping on the teeth when the lower jaw is relaxed and mouth open, is now regarded as of no clinical importance, it being found that it is exaggerated only occasionally in functional nervous diseases.

There are only two reflexes of any importance in the upper extremity, the bicipital and tricipital, the supinator and hypothenar being so inconsistent that they are now regarded as of no clinical import.

The bicipital and tricipital reflexes are of the same import clinically, as both muscles are supplied by the musculo-spiral nerve. To get the bicipital reflex, the forearm is flexed on the arm, and the arm is grasped by the left hand so that the thumb rests on the tendon above the elbow joint. A sharp blow is now struck with the edge of the palm of the right hand. This produces a contraction of the muscle and a flexion of the forearm on the arm.

The tricipital reflex is produced by bending the forearm on the arm at a right angle, and striking the tendon of the muscle just above the olecranon. The muscle contracts, and there is extension of the arm. The arc is completed in the fourth and fifth cervical segments of the spinal cord.

These reflexes are exaggerated in all functional nervous conditions, such as neurasthenia and hysteria, and in lesions of the brain which supply the motor nerves to the arm. It is lost in peripheral paralysis, such as is caused by injury to brachial plexus, and in lesions of the posterior columns of the cervical cord, as in tabes.

The greatest number and the most important reflexes are to be found in connection with the lower extremity, and the remaining ones will all be found there.

Kernig's sign is produced by having the patient sit in a chair with the thigh at right angles to body or patient may remain in bed provided the thigh is flexed at right angles to the body. One hand is placed in the popliteal space, and the leg is then extended on the thigh. If this reflex is present, there is a spasmodic contraction of the biceps, semimembranosus and semitendinosus, and the leg cannot be extended beyond an angle of 135° . Kernig at first thought this sign pathognomonic of meningitis. It has been found since, however, that it is wanting in about ten per cent. of cases, and these are generally tubercular. When it is remembered that it is found in ninety per cent. of all cases of acute meningitis, it is a very valuable sign.

Remak's reflex is produced by striking a sharp blow over the upper part of the femoral muscle, when if the reflex is present, there will be flexion of the toes and extension of the foot and leg. This is strictly pathological, and is only found in severe lesions of the cord above the eighth dorsal vertebra.

The adductor reflex is elicited by a sharp blow struck on the inner side of the thigh, just above the knee-joint, when, if present, there will be slight adduction of the thigh. It is not present in more than thirty per cent. of normal persons. It is present in all conditions which give rise to an exaggerated knee-jerk.

The Achilles tendon reflex is one of the most important reflexes. It is produced by flexing the leg on the thigh, and then the foot is seized with one hand and forcibly flexed on

the leg. A blow with the other hand is now struck on the tense tendo Achillis, when the foot is more or less extended. The arc is completed in the fifth lumbar and first sacral segments. This is a very constant reflex, being found in all persons under 55 years of age. It is lost and exaggerated in the same conditions as the knee-jerk.

When one of these reflexes is lost and the other remains, the knowledge of their respective arcs will help to localize the lesion.

Ankle clonus is produced by flexing the leg on the thigh and then forcibly flexing the foot on the leg, and maintaining the pressure. If true ankle clonus exists, there is a to and fro oscillation of the foot, which continues as long as the pressure is kept up. The ankle clonus is now held never to be present in mere functional nervous disease, and is an almost certain sign of some lesion of the central nervous system.

In cases of exhaustion from disease or from fatigue, if the toes be rested on the floor an involuntary to and fro movement is produced, which must not be confounded with true ankle clonus.

The patellar reflex is produced by seizing the patella and forcibly pushing it down when the leg is extended, or the finger may be placed above the patella, and a sharp blow struck with the other hand. If the reflex is present, there is a contraction of the quadriceps, drawing the patella back to its place. This reflex has the same clinical significance as the knee-jerk. Sometimes it is attended by repeated spasmodic movements, when it is known as patellar clonus, and this is a sure indication of pyramidal disease.

Sinkler's toe-jerk is a reflex which is produced by flexing the great toe

forcibly on the sole of the foot, when there will be pronounced flexion of the hip and knee joints. This is well marked in cases of extreme spasticity.

Gower's front tap is produced by flexing the leg, and then striking a blow on the tibialis anticus. In about half of normal persons there will be flexion of the toes. It is more pronounced in neurasthenia and other functional diseases, and is always absent in tabes.

I do not propose to speak at any length of the best known and the most important of all reflexes, the knee-jerk. I will content myself with referring to certain conditions which have been found to modify it.

It has been found that fright and extreme cold inhibit it, while nervousness, great excitement and chilliness increase it.

The examination must be most thorough before concluding that there

is no reflex. In these cases the thigh should be bared and the hand should grasp the muscles at the middle of the thigh, and it will be often found that there will be a pronounced contraction of the quadriceps, and also of the other muscles of the thigh.

It has been found that any muscular or mental effort increases the reflex. Having failed to get the reflex you place the patient and his leg in proper position, and then you lock the fingers of his hands together, and ask him to pull them apart, and at the same time direct his eyes to a card on the wall, asking him to read the letters on the card, and strike the tendon when his attention is thus diverted. This is known as the reinforcement of Jendrassik, and will frequently elicit the reflex when there has been failure to get it in the ordinary way.



SCHOOLHOUSE CONSTRUCTION.

By HERBERT F. GATES, *Architect.*

Haiter, N. S.

(Read before the Provincial Health Association.)

THE building of a schoolhouse involves an obligation—an educational obligation, if you please, in that the accepted idea in beauty, grace and dignity in architecture should be carried out.

The education of the community is affected by its architecture—hence, an edifice dedicated to the cause of education, above all other public buildings, ought to set the pace for taste, simplicity and dignity in the matter of design. If we inculcate the rising generation, by worthy example, with a correct taste in architectural expression, the future will bring forth higher achievements in that direction.

If the public school system is to remain the object of our boast and pride, we must sustain it properly. The children who are debarred from its blessings for want of accommodation, can well claim that a crime has been committed against them, the real perpetrators of which not only go unpunished, but even go uncensured.

The timely anticipation of public school needs goes a long way towards solving the difficulty. A liberal estimate of the natural growth of a community, wise legislation and sufficient taxation, will obviate crowded and delapidated schoolhouses.

The site must be central in point of school population; a corner lot is most desirable. It should be away from noise and polluted air, and high in order to secure the best drainage. Playgrounds should have about thirty feet square for each child. While this is the English standard, it cannot very well apply to large cities, where ground space is too ex-

pensive. The introduction of roof playgrounds in the city schools of England and the United States, is a most interesting innovation and one of practical economy where school houses are built upon costly sites.

Regarding the lighting of the building, authorities differ considerably. There are those who favour north light because it is so steady. Southern exposure is favourable because sunlight is most desirable as a disinfectant. Both conditions are desirable, but cannot be secured at the same time. Good sense dictates that sunlight should be had at least, during part of the day—thus making eastern exposures most desirable. There is by no means a unanimous opinion as to the best methods of placing such buildings in regard to exposure to the sun; but there is a substantial agreement on the whole that a westerly exposure is the least desirable of all.

Class rooms should have fifteen square feet of floor space and two hundred cubic feet of air space for each pupil. The sizes of class-rooms, as fixed by the best authorities, at 28 x 32 feet, accommodating 56 pupils, and at 24 x 32 feet, accommodating 48 pupils. The advantage in adopting this latter size lies in enabling the lighting to be on one side only (the left side) the only correct system of lighting. The small size class-room permits also an appreciable economy in the construction of the building. Again, a class of forty-eight pupils is nearer the number a teacher should have, as recognized by the highest authorities, than any other. A sound pedagogical policy

calls for forty pupils in a class-room 22 x 32 feet.

Sheathed dadoes should never be used in a schoolhouse. They give lodgment for dust, and when removed have often been found to be infested with vermin. The best dado for a schoolhouse is of gauged mortar, with wooden chair rail, where blackboards are not set, and with a plainly molded ogee base run out of 2-inch or 3-inch plank, or better, a like mould of Keene's cement may be used. To facilitate the cleaning of the building it is advisable that the angles of walls and the junction of walls and ceilings of schoolrooms should be concaved on a radius, as is customary in good hospital construction.

As in a hospital ward, and for the same reasons, as little wood as possible should be used in the finish of a schoolroom. Inaccessible ledges on which dust may collect should be avoided. Jambs of doors and windows may well be finished with round corners in Keene's cement. The floors should be of rift Georgia pine or maple, or birch. Schoolhouse floors are not usually finished, although two coats of linseed oil for hardwood floors would appear as desirable here as in a private house for the floors that are to be scrubbed. School authorities are usually very economical in expenditures for this purpose, a method of saving public funds not conducive to the health of the community. In Germany great pains are taken during construction to thoroughly oil the floors of schoolrooms, and the surface is carefully maintained in use. For flooring, hardwood is more sanitary than soft wood, more easily swept and kept clean. The pores should be thoroughly filled with oil.

Cloak rooms should adjoin the class rooms, with outside light, and

should be thoroughly ventilated. In case of wet weather, the garments are apt to retain an odor, which is unhealthful.

All doors should open outward except those into class-rooms, which should open in, being thus under the control of the teacher in case of panic. What little loss of life has occurred in the schools of this country has been due to the fact that teachers were unable to control the rush of pupils from the rooms during a panic. Vestibule doors should be hung with double-swinging, spring butts.

Circular staircases should be avoided. Rubber or other mats should never be used on any staircase. No school building of two stories or more should have less than two staircases.

One important feature in every schoolhouse is the location of the stairways, which should be placed at opposite ends of the building and in separate hallways not connected with each other, so that if one hallway should become filled with smoke, in case of fire, the other hallway would still have safe egress to the inmates of the building.

The average percentage of moisture in the outdoor atmosphere is seventy per cent. The average house atmosphere during the months of the year when artificial heat is employed contains ten to twenty per cent. of moisture. This means a dryness which is greater than that of the deserts at their driest period, during which the moisture is reduced from twelve to twenty-five per cent. A mummified and shrivelled appearance of the human skin is caused by a dry atmosphere. The ruddy complexion and red cheeks of English men and women are due to air moisture. It is a remarkable fact that while it may require a temperature of seventy de-

grees to insure physical comfort—with a relative humidity of fifty per cent., one will be comfortable at sixty-five degrees of warmth. In other words, if the air moisture is adequate, one will be comfortable in a temperature of five degrees less. This, it has been estimated, will make a fuel saving of from twelve to fifteen per cent.

The proper lighting of a schoolhouse is not only one of the most difficult problems, but also one of the most important. The window area should be ordinarily one-fifth of the floor-space. Where the rooms are wider than twenty-two feet, and the light is brought in from one side only, the window area should be at least one quarter of the floor space. The light should come from one side only, and pass over the left shoulder. The windows should be close to the ceiling and not nearer than three feet to the floor. They should not be grouped together, as is frequently done to secure architectural effect, but should be so set as to secure the largest diffusion of light for all parts of the class-room. Prism glass may be used with advantage where the proximity and height of the surrounding buildings causes dimness. Through the use of prisms a flow of light can be directed into buildings to a considerable distance. The prisms light throughout the room so that each pupil may enjoy the same intensity of light irrespective of his or her location. The consideration of cost should hardly preclude the use of prism glass, for the first cost is the whole cost.

Transoms should never be used in schoolhouse windows, on account of the shadow they throw.

The common sense view of the lighting question appears to be that all possible light should be gained for a class-room, providing that if

from a side of the building exposed to the sun the major part comes from the left hand side of the pupils, that none comes in their faces and that there should be no windows opposite the teacher's desk.

In the matter of window-shades, adjustable fixtures should be obtained so that the light may be secured from the top or bottom as may be necessary.

There is now on the market a very good window-shade adjuster, which enables the shade to be moved up or down.

Re Plumbing:—

It goes without saying that every plumbing system should have a line of soil pipe of extra heavy cast iron pipe, which has been subjected to the water test when in position, that this pipe should be extended above the roof, and that where the conditions admit, the house-trap should be placed outside the building in a brick man-hole of sufficient size to be of ready access.

In the installation of plumbing in any building, but especially in schoolhouses, the three things most essential for the fixtures themselves are, first, metal or submerged joints for all fixtures; second, in view of the unusually poor janitor service, fixtures of types readily cleansed; and, most important of all, free and constant local ventilation of the fixtures.

The privy vault is an expedient which is not to be considered. For a building without sewer connection, earth closets are most advisable. They should have thorough local ventilation and should be in a separate building, which should be heated, if possible.

To avoid the spread of skin diseases, set basins should not be used in school buildings; sinks fitted with faucets should be provided.

DISEASE AMONG PUPILS IN PUBLIC SCHOOLS

*By A. McKAY, Supervisor of Schools,
Halifax, N. S.*

(Read at meeting of Nova Scotia Health Association, Halifax, March 21, 1907.)

EVERY reader of current educational literature must have noted that within the last few years laws for the medical inspection of schools have been enacted in nearly every civilized country, that municipal councils and school boards of the leading European and American towns have heartily endorsed the movement by making generous provision for the best known sanitary conditions of school premises, and for the periodical, sometimes the daily, visits of medical inspectors.

Hitherto, however, it seems as if Nova Scotia had scarcely been aware of what the rest of the world was doing in this respect. In country schools, and in those of small towns where the children have better opportunities for out-door life, it may be, (though it is somewhat doubtful) that the standard of child health is higher than in large cities. At all events the terrible effects of unsanitary conditions upon child life are not so apparent as they are in congested centers.

Unfortunately we have no system of vital statistics for this Province,—a fact which this influential association should without delay bring to the notice of the government. For the want of such a system, we are unable to show as clearly as we would like, the appalling losses of life, suffering and misery to which this community is subjected, by reason of our ignorant neglect of our children.

A few years ago it was estimated after careful inquiry among the teachers, that during an epidemic of diphtheria in this city, no less than

200 pupils of our public schools died of that dread disease. The carelessness and ignorance that prevailed were so great, that children were often allowed to attend school for two or three days after diphtheritic symptoms had developed. It may be confidently stated that, if during that epidemic, a medical inspector of schools had made daily visits, and had dealt promptly with suspected cases, the lives of at least 100 of these pupils would have been saved, although this was before the antitoxin treatment became general. Nowadays of course, as you know from medical statistics, the victims would number less than 12 per cent. The cost of medical inspection would be much less than the loss arising from interrupted school work, not to speak of the loss of life at all.

In connection with their investigation into the cause of irregular school attendance the members of the executive committee of the Halifax School Board were deeply impressed with the large amount of disease alleged to exist among the school children, and the necessity of having a medical expert who could be consulted in cases of doubt.

In the meantime at the Provincial Educational Association which met at Halifax in September, Dr. H. Woodbury delivered an able and instructive address, in which he pointed out the physical, and even mental havoc caused by the alarming prevalence of decaying and deformed teeth among school children. His facts and opinions were reinforced by

an impressive paper from Dr. Thomson. The teachers emphatically endorsed their views, expressing the opinion "that systematic medical and dental examination of children in the public schools is very desirable in the best interests of the health of the country."

Mr. Barnstead, Chairman of the Halifax School Board, in his inaugural address on the 10th of January, pointed out that, in our schools, "aside from taking precautions to prevent the spread of contagious diseases, little was done for the health of the children. Weak eyes, deafness and other ailments cause much of the backwardness among pupils, which in ignorance is attributed to stupidity." I was accordingly requested by the School Board "to ascertain methods of dealing with the pupils' health in other countries, and to report, which I did at the end of the month, making such recommendations as seemed justified by the results of the best experience gained elsewhere."

As early as 1838, regulations were made in various European countries regarding the health of school children, yet it was not until about 1890 that the importance of the subject was generally recognized. The progress made during the last fifteen years is very remarkable. A few illustrative examples may be interesting. In France and Germany, all the leading cities have medical inspectors, appointed mostly by the municipal or state authorities. In a typical German city, we found one physician appointed to every 1,000 or 1,200 children. He receives a salary of \$110. He makes a two hour's visit every two weeks, examines all pupils with detective sight and hearing, and shows where, in the school room, they should be seated; gives advice regarding the pupil's

fitness for physical exercises and extra work, home lessons, etc., examines into the sanitary condition of the school premises, and reports to the parents regarding any ailments requiring the attention of the family physician.

In London, Edinburgh, and other British cities, similar duties are required of physicians appointed by the school boards.

In Massachusetts, an Act passed in 1906, requires that the school committee of every city and town shall appoint one or more school physicians, who shall make a prompt examination and diagnosis of all children referred to him, and such further examination of teachers, janitors and school buildings as in his opinion the protection of the health of the pupils may require. Particular attention is given to contagious diseases, defects of sight and hearing, physical record books, and the instruction of teachers in hygiene and the best methods of assisting the physicians in the simple routine work of medical inspection.

Equally good regulations are general in Australia, Japan, and even the Republics of South America.

It is evident then that the medical inspection of school children is now coming to be recognized everywhere as a most important feature of education.

So far the advocates of school hygiene, in its broader sense, have had their expectations regarding its value fully realized. For a demonstration of many of its benefits we do not have long to wait, they are almost immediately apparent. "Since the system was introduced in Boston, diphtheria has fallen off about two-thirds, and scarlet fever about five-sixths. In the case of diphtheria, antitoxin has of course played the leading part. But

medical inspection in the schools has been important as shown by the fact that before inspection in the schools began, some diseases—such as diphtheria—were more common during the school term than during the vacation, but after the inspection was introduced they were less common during the school term than during vacation.”

In Lambeth school where the children’s teeth are carefully looked after, 76 per cent. of the pupils were free from any obvious dental defects, while in the adjacent school where no such care was taken only 30 per cent. had sound teeth.

One illustration from many that I could cite, will serve to show that, in the prevention of contagious diseases alone, the medical inspection of schools pays. It is also evident that this work can be done more effectually and naturally by the school authorities, assisted by medical experts, than through any other agency. In 1897, in a primary school of 40 pupils, 14 were attacked by diphtheria. Of these, 7 were discovered by the medical inspector, partly by the aid of cultures. All suspicious cases were recommended to the care of the family physicians. The classrooms were disinfected, and every pupil was examined daily, and no pupil allowed to return to school until it was proved by a negative culture that there could be no danger. As a result of these measures not a single case of diphtheria occurred beyond those known to have been infected at the time the epidemic was discovered.

Let me now appeal more directly to your judgement and sympathies by showing the conditions actually existing in our own schools.

In recently visiting a school room containing 40 pupils of grade V.,

ranging from 10 to 14 years of age, I found that the teacher took a most intelligent interest in all matters relating to their health. In my presence she examined a large number of them in regard to their health conditions. She afterwards gave me the following summary of a more thorough examination:

No. of pupils having defective teeth (*two very bad cases..	12
No. of pupils having defective sight	6
No. of pupils having defective hearing	2
No. of pupils having nasal catarrh	4
No. of pupils having chronic sore throat	4
No. of pupils having skin diseases (probably contagious)	4
No. of pupils having kidney disease (advanced)	2
No. of pupils having ear disease (running sores)	2
No. of pupils absent on account of bad colds	3
No. of pupils apparently in good health	1

When taken in connection with the general anæmic appearance of the pupils, these figures, which are undoubtedly correct, do not reveal a bright prospect for the future.

At my request a city physician examined the pupils of another school, carefully testing for sight, hearing and adenoid growths. He reports as follows:

Nasal catarrh	50 per cent
Discharging ears	33 “ “
Enlarged tonsils	58 “ “
Defective hearing	16 “ “
Defective sight	33 “ “
Defective teeth	33 “ “
Anæmia	16 “ “
Adenoids suspected	33 “ “
Pulmonary tuberculosis suspected	8 “ “

Another physician examined a third department with the following results:

No. of children examined	35
Bony deformity	2
Marked anæmia	3
Deformities and subacute and chronic affections of the upper respiratory passages including enlarged tonsils, adenoids, etc.	12
Defects of hearing	2
Defects of sight	5
Strabismus	3
Signs of congenital syphilis	2
Carious teeth	14
Irregularities of teeth causing deformity of jaws and lips and amenable to treatment	8
Heart disease (well marked)	4
Pulmonary tuberculosis (advanced)	4

In many of the children several of the above diseases were found combined. Practically only three of the children presented a healthy appearance. Nearly all showed the effects of unhygienic conditions in the homes. About one-third of these children would be benefited by treatment. Only a very small proportion are at present under treatment.

The testimony of these two well educated physicians brings to light important facts. Without a careful study of this problem it is almost impossible adequately to realize the grip that the forces of deterioration and death have upon our school children, the hard and prolonged struggle through all the perils that beset them from infancy to manhood and womanhood, and the numbers that fall by the way.

How do we account for so much ill-health of school children? It arises mainly from unfavourable home conditions, heredity, poverty, ignorance of the laws of health, etc. But the schools are also partly re-

sponsible. There is probably not a well-ventilated schoolroom in the province. In Halifax we have tried various methods, but none of them ever succeeded and we are now dependent almost wholly on open transoms or windows, with all the attendant inconveniences of drafts and chills. On cold days 50 or 60 healthy and unhealthy pupils from all kinds of homes are often compelled to sit from one to two hours in a room with closed doors and windows until the air becomes most offensive.

In such conditions even the best child is apt to become stupid or troublesome, while the vitality of the anæmic and ill-fed is so reduced that he becomes the ready victim of contagious and other diseases.

Again, the school desks are usually of sizes not well suited for the pupils, and not being adjustable, the result is much discomfort, contracted chests and spinal deformities.

Very few schoolrooms are sufficiently lighted or the light does not mainly come from the left and from behind, or the black boards are allowed to become smooth and reflect the light. Hence defects of sight.

The school board, the school inspector and the parents hold the teacher responsible for the pupil's intellectual progress, but not for his physical well-being without which all his other attainments will eventually go for nothing. No difference how anæmic or nervous, he must know his arithmetic and his spellings.

What public opinion demands of the teacher she must, in self-defense, demand of the pupils. This pressure cannot injure strong, healthy, phlegmatic children, but it is most injurious to the weak, the nervous, to those exhausted by social pleasures and home duties.

The teacher is so engaged in working for examination results that ventilation is neglected, over fatigue is not noticed, recesses are utilized for study, and ambitious pupils are over-stimulated in order to keep up the teacher's professional reputation, and gratify parental pride. The result is an occasional breakdown, which is foolishly blamed upon the course of study.

School boards should be held responsible for having the school yards, school houses, and school furniture absolutely free from sanitary defects. Teachers should be responsible for the intelligent use of all school appointments, for such a knowledge of hygiene as will enable them to recognize the presence of marked anæmia, defects of vision and hearing, habitual headaches, and similar manifestations of abnormal condition, and they should be held more strictly accountable for ignoring the laws of child growth and development, than for defects in their arithmetic and reading.

Every department of human endeavor has become so specialized that our school commissioners and teachers are usually sadly deficient in that knowledge which modern science has made available for the proper care of the body. They need therefore, the advice of medical experts, men possessing also some general knowledge of such related subjects as pedagogics, psychology, child study, gymnastics, games, school architecture, ventilating, plumbing, etc., or in default, more than ordinary common sense.

If we induce or compel parents to send their children to school, it is evident that we are bound to make the school comfortable and safe, hygienic, free from danger of contagion, favorable to physical health

and morals, as well as artistically attractive. For all this we need the assistance of the medical expert.

Schools without medical inspection may become centres of infection. A mother in poor circumstances, pre-occupied with household cares, or having to go out to work for a living, sends her child having a slight sore throat to school, partly to be cared for. She is too ignorant to interpret the symptoms or to suspect the danger, and if she did she is too poor to send for a physician. There is no school inspection, and the child is allowed to remain in an overcrowded schoolroom where the vitality of the pupils is lowered by bad ventilation and want of exercise, and the inevitable result must be the spread of diphtheria. The whole community that was too penurious or heartless to provide against such dangers, suffers the consequences—the innocent children paying the penalty for the faults of their fathers.

A general knowledge and practice of the common laws of health would revolutionize society, and yet there are few subjects of which people are more ignorant. If their children were medically examined at regular intervals the parents would begin to take an interest in such matters. The children would be taught the principal modes by which each of the dangerous communicable diseases is spread, and the best methods for the restriction and prevention of each such disease, the importance of cleanliness, regular habits, pure air, and properly cooked food, would be emphasized until gradually the other members of the family would become interested and the appropriate apprehensive basis having been supplied, they would seek for, understand and apply information from books, lectures and magazine articles.

If teachers receive proper instruction in school hygiene, and if their attention is effectively directed to its importance, they will be on the lookout for danger and can on account of their intimate relations to the children make observations that will be of the greatest value to the medical inspector, and reduce his work to a minimum, while actually increasing its efficiency.

Having directed your attention to the great advance made by other countries in the medical and dental inspection of school children, and to the valuable results obtained, and having shown by investigation the actual health conditions in some of our schools, and having given substantial reasons for the appointment of medical school inspectors, I shall close with a brief statement of the duties that might be assigned to such officers.

(1.) To certify regarding the health of teachers applying for positions in our schools or for leave of absence on account of illness.

(2.) To examine pupils claiming exemption on account of illness, from the penalties of the Compulsory Attendance Act.

(3.) To advise pupils who are overtaxed with the regular studies, or who are unfit for the physical exercises required of the other pupils.

(4.) To inspect the sanitary condition of the buildings, premises and appliances, and to give advice in the construction of new buildings.

(5.) To examine as often as needful all pupils suspected of any physical defects, and to notify the proper authorities of any serious

irregularities. Children on entering school should be examined.

(6.) To take special precautions against the spread of infectious diseases, and in doubtful cases to visit the homes of diseased children for the sole purpose of examining the quarantining, but not to prescribe, diagnose, or in any way interfere with the prerogatives of the family physician.

(7.) To instruct the teachers in the best methods of testing sight and hearing, or detecting adenoid growths, of examining the teeth, of noting the early symptoms of contagious and nervous diseases and mental fatigue. He should also deliver to the teachers a series of lectures on these subjects, as well as on the more general principles of hygiene as related to schoolwork.

The medical inspectors for the cities and towns should be appointed and paid by the school boards. The school boards are more familiar with the needs of their schools, and as there could, by this arrangement, be no conflict of authority, there would be harmony and good results. The medical inspection of rural schools should be under the control of the local health boards.

One more word: In striving to advance the prosperity of our country let us remember that "the first wealth is health," and that the "people are destroyed for lack of knowledge," lack of knowledge of self and environment, lack of knowledge of physical laws in their relation to health and morals. *Non est cibus, sed valere, vita.*



INFLUENZA.

By A. E. PORTER, M. D.,

Oxford, N. S., formerly of Prince Albert, N. W. T.

(Read before the North West Medical Association, Regina, N. W. T., and also before Cumberland County Medical Association, Feb. 28th, 1907.)

IN view of the recent visitation of influenza, it may not be inopportune for me to set forth the following remarks on this epidemic.

There can be no doubt that the disease is due to a specific cause which the microscope and bacteriological investigation will yet reveal. In fact Sievert is reported to have found micrococci in the sputa of influenza patients, but so far as I am aware there have been no facts adduced to show that it is positively due to this micro-organism, nor are there any to show the manner in which it is disseminated.

We find that all the great epidemics of influenza which have occurred during the past three hundred years originated in Asia. In proof of this we have the authority of the best records and historians. When it reaches Russia it is known as Chinese catarrh, in Germany the Russian pest, in France, and to Canadians as la grippe, and to Englishmen as epidemic catarrh or influenza.

These epidemics have only been clearly recorded since the beginning of the sixteenth century, although the spread of a somewhat similar disease is mentioned as occurring at intervals from so early a date as the ninth century, and is said to have infected the whole of Europe, and to have been known as epidemic catarrh.

The first epidemic of influenza recorded in Great Britain was early in the sixteenth century, occurring also in Italy, Spain, Portugal, Hungary, Germany, and the Baltic Provinces.

The epidemic in 1557 started westward from Asia, spread over Europe and crossed the Atlantic.

The great epidemic of 1580 spread from China in a north westerly direction through Russia and Germany into England, appearing also in Sweden and Norway, and westerly into Africa and Southern Europe. Between 1610 and 1647 it is only at times spoken of as epidemic. Again in 1730 it spread over Europe, and is said to have found its way to Mexico.

It is recorded in each decade from this date to 1880. In 1830 influenza started in China, crossed into Russia, invaded Moscow and all the large cities of Europe, and was remarkable for its widespread diffusion and rapid succession of epidemics appearing in 1831, 1832 and 1833.

In 1837 it again appeared in Russia, coming as before from China. At least eleven epidemics are recorded at varying intervals between this date and 1879, when it is recorded as prevailing over a large portion of the United States, and from my own personal knowledge in the North West Territories.

In the Fall of that year, and the Spring of 1889, it prevailed for at least six months before it became generally epidemic, a fact which may yet be shown to have some bearing on the subject in question. I observed in the epidemic in 1897 what at that time I believed to be the same disease in cats and dogs while epizootic was fatally prevalent among horses, and to all appearances resembled influenza.

We find that the disease occurs at all seasons of the year, and I have seen sporadic cases every year since I came to this country. It has no respect for rank or persons, being found in the palaces of kings, as well as the lumber shanties and Indian tepees of the West, tickling the nose or paining the head or back of royalty, as well as that of their most humble subjects. We may say it occurs in all latitudes, in the Arctic Circle as well as the Tropics, and has developed on board ships at sea. It has no known connection with atmospheric condition, appearing at all seasons of the year, whether the climate be cool and dry, or moist and warm, though these conditions may affect the severity of the attack. It assumes a mild form in the North West Territories, while it is reported to be most severe in Southern France, Florida and California.

I have no doubt that its spread may be influenced to a certain extent, by wind currents, when once it becomes epidemic. But there are times when it travels in an opposite direction to prevailing winds, while at other times it reaches countries in advance of them. It is not in anyway connected with conditions of soil, elevation, or local causes, although known to have been limited to a single city.

At times it radiates from certain centres travelling slowly, at others overrunning the whole of a state or nation in a few weeks. It does not follow consecutively the great lines of travel, nor does it appear to be always conveyed by persons from infected districts. As a general rule the inhabitants of large cities and towns are the first to suffer, next the villagers, and finally the farmers, and last year before the disease became pandemic, I had numerous cases

which were so slight as only to present pain in the sacral and lumbar regions, and in the head, due I believe no doubt, to small quantities of the specific poison acting on the nerve centres of the sympathetic.

The leading symptoms of influenza are closely allied to those produced by certain known organisms, and I am firmly convinced of the micro-organic origin of this disease, the germs of which I believe to be taken into the system through the stomach and lungs, acting as a poison to the pneumogastric nerve centres, and accounting for the severe pain in the head, neck, thorax and abdomen, which spreads by communicating fibres that are distributed to the heart, lungs, stomach, liver and kidneys, also the mucous membranes and muscular coats of the pharynx, œsophagus and respiratory passages. It acts also through the solar plexus, and accounts for the severe pain in the spleen, stomach, kidneys, testicles, and the utterly uncontrollable attacks of sneezing in some cases, by the poison affecting the phrenic which supplies the diaphragm. In bad cases we have severe diarrhœa, mucous discharges, pain through the heart and fainting fits, pain through the kidneys with suppression of urine, a persistent headache, sore throat, inflammation of the air passages, loss of taste and smell, and shooting pains through the whole body. And what appears strange about la grippe as I observed it last year was a decided rash in many cases, showing fermentative disease, accompanied by severe diarrhœa and rheumatic pains in all the joints, and all over the body, an intensely high and remitting fever often returning on the third, fifth, and sixth day of the attack, showing miasmatic origin.

We heard here of la grippe with measles-like symptoms among the Indians far to the North at Isle La-Crosse, Greek Lake, Athabasca and other districts, for some time before it reached here, the Saskatchewan Valley; and I am informed on the very best authority, that in many cases diarrhœa was so severe as to amount to gastro-intestinal flux, and without treatment many Indians died. Two cases which I attended last winter presented all the symptoms of spasmodic cholera, the muscles of the arms, abdomen, legs and chest being drawn into hard knots, and it was only by means of large and repeated hypodermic injections of morphia that I was enabled to save the life of one of them. This man, a very intelligent German, who had cholera in 1865, informed me that the symptoms were identical with those experienced by him while suffering from that disease.

Diseases of a somewhat similar nature are produced by fungus growth on vegetable life, and it is possible to produce measles-like symptoms in persons by exposing them to fungi growing on dark oat and barley straw. Salisbury has recorded instances of inoculation with this organism that resulted in the production of modified form of measles, and was protective against further attacks of the same disease.

It is a well known fact that in new districts during the threshing, those employed are affected with what is known among themselves as threshing fever, a disease which lasts from two to four or six days, and resembles ague and la grippe combined, and often having measles-like symptoms. Just as the rust of wheat is carried by the wind and lights on the green grain to produce the same dis-

ease, so it produces in the human body a disease resembling la grippe.

I have noticed annually, cases of bronchitis in many ways resembling this disease, and produced as I believe, by the fine rust and dust in the fall of the year, as I have only observed it during the threshing season. I thought this first due to ozone, but from an experience extending over twelve years in the North West, I am satisfied that it is caused in the way above mentioned, and produces our autumnal catarrh, or a mild form of la grippe.

Diphtheria, scarlet and enteric fevers are often recognized as rising spontaneously out of the same conditions, and Leitzerich recognized the specific parasite of diphtheria, whooping cough and typhoid as identical, but admitted the great difficulty in discriminating between that of epidemic influenza and that of croupous pneumonia, the latter often following la grippe. Cerebro-spinal meningitis or tetanoid fever is recognized as having a miasmatic origin, and in many cases shows a distinctly intermittent character with an erythema like eruption. Doctor Richardson believes these diseases to be caused by eating vegetable substances, or bread stuff containing spurred or ergotted grain or a poison which he considers present in the must or rust of grain, and in a report made by Dr .S. Baker in 1879 to the Michigan Board of Health, it will be seen that the phenomena which characterized this disease during an epidemic in that state, were due to the action of diseased grain used as vegetable food.

Cholera, the most dreaded of all diseases, when epidemic, probably results from miasm produced by parasitic growth often on diseased rice,

more especially in years when circumstances particularly favor the increase of these micro-organic germs, and in severe cases of intermittent fever there are copious watery discharges from the intestinal canal, violent vomiting, profuse and bloody diarrhœa, which gives the paroxysms a great resemblance to the algid stage of spasmodic cholera.

We know that great epidemics of intermittent fever have often preceded this disease, the poison of which, I claim as very similar to that of influenza, differing only in degree, on account of its environment.

Hay fever and pollen catarrh or June cold, (which closely resembles la grippe) variously named, are now generally believed to be caused by the pollen or protozoa from certain plants floating in the air, more particularly the elder, with which tea is often adulterated. Zeullezer has designated this among infectious diseases, and being a martyr to hay fever myself, I have noticed that a handkerchief used during an attack would invariably produce the same disease within half an hour if accidentally used a second time, even weeks afterwards.

With a very inferior microscope I have been able to discern in the secretions, some kind of parasitic or micro-organic life, but admit that I am unable to say what these germs are; and in a basin of water under a gentle heat I have cultivated them to such an extent that in 24 hours the mass resembled frog spawn.

In searching for the cause of such a wide-spread infection as influenza, we must seek some article of equal general use, capable of acting as its distributing medium. There affected the coffee crop in Ceylon a fungus growth so severely between 1865 and

1875, that some sixty million dollars worth were destroyed.

We could not, however, expect disease to be carried in coffee, since the roasting process to which most of it is subjected would destroy any micro-organisms which it might contain. Let us then consider the adaptability of tea to meet the requirements sought. Its daily use by two thirds of the population of the world, provides the general distribution desired, and it is possible that certain favorable conditions of soil and climate in those countries from which it is obtained, especially China, together with the mode of gathering and drying the crop, might favor the development of fungi or micro-organisms, or germs floating in the air might find in the tea a home favorable to their preservation and subsequent production.

This important article of diet, *thea chinensis*, belongs to the natural order Ternstroemiaceae, and although indigenous to China and Japan, possesses an adaptability to climate, exceeded among food plants, only by wheat. Its limits of cultivation extending from 39 degrees north latitude through the tropics to Brazil and the Southern Hemisphere, and it is grown in the open air in England; a rich and exuberant growth of the plant however is only obtainable in warm moist climates where rains are frequent and copious, and which favor profusion of jungle growth. A still steaming heat is the most favorable to a good crop, such climate being of necessity malarious and injurious to the health of Europeans and those employed in securing and drying the crop.

The cultivation of black tea belongs to the most southerly portion of China, and is the kind of tea most

generally used. The leaves are exposed to the sun on trays and treated as hay, during which process a fermentation is supposed to take place in conjunction with a volatile oil. A drying and rolling process with the hands is gone through with until it is supposed that all the juice is expressed, which latter does not always occur as experiments show that at 212 F. moisture is driven off ranging from 5 per cent. to 10 per cent. according to weight.

The fact of la grippe occurring on board ship at sea without any known cause, together with the outbreaks of influenza as described by Schleissner and Panum as occurring in Iceland and the Faroe Islands, and said to follow each year the arrival of the first ships, independently of similar epidemics in Europe, might be accounted for the opening of tea-chests containing these germs.

These micro-organisms or protozoa when liberated would float in millions through the air, and being readily inhaled or swallowed would produce disease from which an epidemic might start.

We find that all the great epidemics have been very bad in Russia, and indeed they appear there before any of the other European countries, being due I have no doubt to the fact that the whole Russian frontier lies adjacent to China.

In Russia there is largely used what is known as brick tea; this is the poorest quality of stalks, leaves and sweepings, mixed with paste of rice water, and sometimes bullock's blood, and pressed into brick form and shipped into that country and used almost entirely by the serfs and peasants, and by many tribes stewed in milk and otherwise used as ordinary vegetables. The Russians are known as a great tea drink-

ing nation, consuming more in proportion to population than any other nation in the world, except the Australian Colonies, or possibly the Canadian North West.

As before mentioned the earlier epidemics are recorded as originating in China, and this disease may have been developed in, or conveyed in some instances by this common tea into Russia, by overland stage, and then spread by contagion into adjoining countries.

Influenza proper is not recorded until the beginning of the sixteenth century, and is contemporaneous with the introduction of tea into Europe, the latter being used by the Portuguese in 1517, by the Dutch somewhat later, and introduced into Great Britain during the reign of Elizabeth. If the preceding dates are carefully studied it will be clearly seen that heavy duties and high prices prevented large consignments, consequently during such periods we have no mention of epidemics of this disease. In 1660, tea is spoken of as very scarce in England owing to the high duties referred to, and it will be seen that from 1647 to 1730 no epidemics are mentioned. In 1836 a large importation of tea is spoken of, and in 1837 one of the most devastating epidemics of influenza is recorded. During the years of unusual activity in the tea trade we have epidemics of influenza recorded, and it is a remarkable fact that these epidemics have proportionately increased with the increase of consumption of tea.

In the 14th century we have six epidemics recorded.

In the 15th century, seven.

In the 16th century, eleven.

In the 17th century, sixteen.

In the 18th century, eighteen, and in the 19th century, up to the present

time, twenty-one. Whereas the consumption of tea in Great Britain in 1728 was only 1,493,626 pounds, it increased to 182,443,215 pounds in 1885. In 1774 we know that great quantities of tea were imported into America, and during the two following years epidemic influenza is recorded as being particularly severe, and the crews of Admiral Kemperfeldt and Lord Howe's ships were both attacked with this dire pest at sea.

We find that in the epidemic of 1890, England enjoyed comparative immunity at its commencement, while the disease prevailed in Europe and on this continent, due I have no doubt to the fact that then, and for some years previously her tea trade had been with India, to the growing exclusion of the Chinese product, where under British management, more cleanly preparation of the article was less favorable to the development or harboring of these germs. And there are at the present time, both in Europe and America, where the Chinese article is still sold, isolated cities suffering from the malady evidently due in my opinion to infected tea only now opened up for sale.

It is a known fact that tea tasters can only continue their lucrative calling for a short time; although they never drink the tea, there is some kind of a poison present, a long continued breathing of which causes dizziness, pain in the head, and fainting fits, just as we have in la grippe, and those employed in tea packing houses last but a few years, generally becoming paralysed, thus showing that the nerve centres of the sympathetic are in some way acted upon by this specific poison.

I first formed my theory for contagion through tea while treating cases here last year, when I was led

to suspect as the cause, tea imported by the Hudson's Bay Company, as many people who dwelt elsewhere escaped for a long time, and others altogether.

The disease first appeared here last fall and winter in the railway tie camps, when 70 or 80 men were prostrated in one night; next at the North West Mounted Police barracks, and I am informed that tea used in both places was the same as that shipped north among the Indians the previous fall, where a severe epidemic of la grippe raged among them, and no doubt contained the germs of influenza.

Acting in accordance with this theory of specific origin, I treated all cases that came under my care with large and repeated doses of quinine and sulphurous acid, and with hot whiskey when the pulse and temperature were low, during the first paroxysm. After reaction, the pulse and temperature becoming excessively high, I relied on pulv. Doveri and antipyrine combined. The opium in this mixture relieved the pain in the back and limbs, and the lassitude of the general muscular system subsided as soon as placed under its influence. It produced a free, though peculiarly offensive perspiration, and at the same time allayed the cough and removed dyspnoea by its general diffusive stimulation of the nervous centres, causing a more equal distribution of the nervous force by acting on the vaso-motor system, relaxing the muscular coats of the arteries and arterioles, and unloading the overwhelmed centres of their poison, by causing a freer circulation of the blood.

I found specially good results from inhalations of burning sulphur, which appeared to destroy the micro-organisms in the respiratory tract.

This, together with pulv. glycy. co and sulphur added to act on the bowels when constipated, in my hands proved almost a specific.

I also in some cases used soda salicylate and soda hyposulphite with good results. For the cough, which at times was exceedingly severe, I gave a stimulating mixture of ammonium chlor., or ammonium bromide, tinct opii and syr. pruni virg. in proportion to age and urgency of the case. Cold lemonade proved more grateful and comforting to the patients than hot drinks, unless used as I have just mentioned during the cold stage. Quinine invariably relieved the pain in the head and back,

which in this disease is most persistent and excruciating, generally returning at the same hour each day, and in one case the paroxysms continued in this way for two weeks. This case was treated without sulphur or any specific medicine.

I not only believe tea to be a disseminator of la grippe, but also that many infectious diseases, though of a different nature occurring sporadically in isolated places, may be accounted for in a like manner.

I know this suggestion touches a very curious question which as yet does not admit of solution, but science may yet prove the correctness of my assertion.



VARICELLA AND VARIOLA.

By RUSSELL WITHERS, M. D.,

Annapolis Royal, N. S.

(Read before the Public Health Convention, Halifax, March, 27, 1907.)

I HAVE been notified by the Provincial Health Officer to attend this convention, and to read a paper upon these two diseases.

The first one, varicella, a minor infectious disease, the other, variola, a truly major one.

Why these diseases have been entangled together for my subject and elucidation, has caused me some wonderment and much more thoughtful consideration as to the motive Dr. Reid may have in mind.

After carefully thinking the matter over, however, I am forced to the impression that the doctor thinks I may in some way be able to help clear up the prevailing idea, that seem to be around us, of the impossibility, or rather the uncertainty of making a correct diagnosis between these two diseases, especially when the variola appears of the modified form.

Taking up this cue, then, of what is expected of me, and having only ten to fifteen minutes' time allotted to do it in, I will devote a few of the minutes to the study of the two diseases, and hope to show conclusively, that the difficulty of diagnosis between the diseases is more imaginary than real; for ninety-nine out of every hundred cases of all forms of variola can be quite readily diagnosed, and the remaining one case classified right when given proper attention and careful study.

To begin then with the major disease, variola, which is classified as an eruptive exanthem, and a most dangerous one to life, having prevailed as an epidemic, pestilence or

plague, at various times in all countries of the world; being the most loathsome and fatal disease known to mankind, Europe in one century losing in deaths fifty millions of her population, and whole tribes in Asia wiped out of existence, is certainly an appalling record to one disease which spared none in its deadly march onward, for the very young, the middle aged and the old are all susceptible to the malignant nature of its poison.

And this deadly march onward of the disease was only stayed in the fortunate discovery of preventive vaccination, by Doctor Edward Jenner, and put into practice by him in the year 1798; then adopted, and in use to-day in all countries, as the only reliable means of lessening and stamping out this dreadful scourge.

In variola the prodromal symptoms, usually lasting three days, are quite severe, consisting of much headache, intense pain in the back and loins, violent chills, nausea and vomiting, with elevation of temperature from 101 F. first day to 105 F. at end of third day; full and frequent pulse of from 120 to 140 beats per minute, and great restlessness. At the end of the third day of the initial or first stage of the disease, the eruption makes its appearance on the face and neck, as slightly elevated papules, extending to the trunk and limbs in about twelve hours.

On the second day the papules become larger and harder, and then impart to the finger if passed over them a feeling as if shot were beneath the skin.

On the third day papules become vesicular and very soon commence to umbilicate. The sixth to seventh day the umbilicated appearance is lost, the vesicles are sero-purulent and swollen out.

On the eighth day the pustules are fully matured. The suppurative or secondary fever comes on now, and very likely preceded by a chill, with higher temperature, 106 to 107 F.

Desiccation commences on or about the twelfth day, and occupies from eight to fourteen days, being governed in length of time by the amount of pustulation present.

Varicella is also classified as an eruptive exanthem of the minor order, characterized by successive crops of vesicles all over the body, and which disappear in from four to seven days by desiccation. It has a mild initial fever, the only prodromal manifestation. The vesicles are unilocular and vary in size from a pinhead to a split pea or larger, appearing first on the chest and trunk, later on the face and forehead. After a few days a few scattered umbilicated pustules may be observed, which are purely accidental.

It attacks the young up to ten or eleven years of age. No deaths are recorded directly due to this disease, and it is now generally recognized as an independent affection, having nothing in common with variola, except the idea our fore-fathers had when they mixed up the two diseases,

misnaming this one varicella, diminutive variola.

I will now clinically investigate into these two diseases, and try to show how little difficulty should be in diagnosing between them. But before commencing to do so it will be expected that we know something more about cutaneous diseases than that of the crude and common classification, of hives, salt-rheum and eczema. That such dermatologists as Willen, Wilson, Fox, Squires, Nelligen and many others, have taught us much concerning the hundred and thirty or more varieties we are likely to meet with, that we know most of them on sight, and that we have even seen a case or two of variola. Then is the battle half won when we come to our study of making a diagnosis in any doubtful case.

To proceed now with the investigation, and to disentangle the two diseases, varicella and variola. We will start with a typical case of each disease, and follow closely the differential chart guide of the Department of Public Health on page 14, when the correct diagnosis should easily be made in every case of either disease.

Then change the disease to varioloid or modified form, suspect varicella, plus rubeola, rubella, impetigo contagiosa, impetigo sycosiformis, lichen febrilis, herpes circinatus, etc., etc., and again follow the chart guide and process of exclusion. Take the time to do it in, when we will surely reach the correct diagnosis.



SCHOOL HYGIENE.

By HENRY P. CLAY, M. D., Health Officer for Cumberland County.
Pugwash, N. S.

(Read before the Public Health Association, Halifax, March 21, 1907.)

THE ideas that I shall present to you in this paper were suggested by difficulties which occurred when the question of a new school building for the town of Pugwash was agitating the rate payers of that district. The old building had been condemned, and it became a question of repairs on a large scale or a new house. It was only when after two years, it was proven that a new school building would cost no more than the repairs on the old one, the rate payers agreed to build. At the meetings where the question was discussed I claimed that to tear the old building to pieces would mean the putting in circulation of 30 years accumulated microbes of all shades and chapters thereby endangering the health and lives of the scholars, and I was warmly ridiculed by those in favor of repairs and called all sorts of fancy names. I took the ground later on that matters of that kind should be summarily dealt with by the Council of Public Instruction, which is practically the Government, and further that the Government should have a set of plans for all school houses to be built in the province, such plans to be up-to-date in every particular and so planned as to meet every requirement in the province from a \$300.00 school house up to the highest grade county academy. This would prevent the local architect or Board of Trustees from building according to their ideas, and possibly, as in our case, erecting a building eminently unsuited for school purposes from every point of view. With regard then to light: I have failed to find any school yet in

the country districts where the light arrangements have been anything like perfect, and as a result we have a steady increase of astigmatism and kindred eye troubles. The arrangements of windows, black-boards, etc., if done scientifically, would obviate very much of this. Ventilation and heating are two other important matters that the educated architect would arrange for even in the cheapest country school house with very much better advantage to the scholars than the rural trustee or builder could possibly do. Windows are not arranged to be let down at the top and very rarely can be raised from the bottom, while it apparently makes no difference where the stove or other heating apparatus is located so that even heat is never or rarely assured.

One great cause of constipation, the curse of the country, is the villainous condition which obtains with regard to closets. As a general rule these annexes are left unlocked and particularly in the case of female teachers the necessary supervision with regard to cleanliness is not carried out by reason of natural delicacy of feeling. Unfortunately these out buildings are too frequently open underneath, and in the winter the cold drafts coupled with dirty seats scare the child away, and the call of nature is neglected until constipation becomes a chronic habit. This in the case of young girls coming into womanhood is particularly disastrous as every practitioner knows too well. Properly constructed closets kept under lock and key, and a little common sense on the part of lady teachers, and an exhibit of sand

on the male teachers part, would save much suffering and prevent disease. I might suggest here that a little plain talk couched in suitable language on this subject might form a valuable addition to the regular course of study in the average country school. Mock modesty has killed as many people as some of the so-called serious diseases.

The recent fire at Hochelaga where a teacher and 18 pupils lost their lives has called attention to the necessity for all school buildings to have doors opening outwards. How many school buildings or public places of meeting of any kind for that matter, offer the protection of outward opening doors? Very few I think.

In the matter of recreation grounds, country school houses and even those in the larger towns show great indifference to the needs of the children. A small amount of money expended annually on school grounds would not only make the surroundings more attractive, but would offer an incentive if property expended, to all sorts of out-door athletic sports. To the child predisposed to tubercle the advantage of property conducted out-door exercise cannot be over estimated.

Seating and desking the average country school house is done in very many instances without any regard to the requirements of the scholars, and it is not uncommon to find fairly well formed youngsters doubled up over a low desk like a barrel hoop, thus contracting the chest walls and limiting the space nature intended for breathing purposes. It may be said that the inspector of schools should be able to correct the abuses to which I have so imperfectly referred, but like the president of the association the inspector is generally a very busy man. The educational end of it if properly attended to is all any rural inspector can reasonably be expected to do.

In conclusion, inasmuch as the *health act* confers considerable power on health officers with regard to inspection of school houses, I might suggest that the government be asked to enlarge these powers providing a quid pro quo—on account of extra service rendered—and further that the Superintendent of Education have his attention called to the great possibilities for improvements over the conditions which now obtain in the erection and maintenance of school buildings and schools in the rural districts.

SEWERAGE.

By I. A. JOHNSON, ESQ., Deputy Mayor of Halifax.

(Read before the Public Health Association, Halifax, March 21, 1907.)

THE following axioms require to be thoroughly understood:

(1). It is absolutely necessary for the preservation of health that all animal waste, kitchen, bedroom and laundry slops be removed

from the vicinity of houses before putrefaction sets in.

(2). Where there is no sewer system, the waste lies in open holes, trenches, overflowing cesspools or under the house itself.

(3). Only a good sewerage system which carries the drainage quickly to a remote disposal point can be considered as a safe means of disposal.

(4). A menace to the health of the inmates of one house is a menace to the health of the whole community.

(5). The installation of a good sewer system lowers the death rate and the percentage of disease.

(6). There is a tendency always to look first at the cost. The question of the cost of a sewer system should not weigh heavily in organized communities, as the value of one life is far more than the cost of good sewerage.

(7). The influence of local health authorities, in impressing upon those

interested, the absolute necessity for good drainage and the danger in conditions existing before the installation of a sewer system, cannot be over-estimated.

(8). The public must be educated against their will where it means expense.

(9). Sewerage is cheaper than doctor's bills, and prevention is better than cure.

(10). The design and details of a sewer system can be left to the engineer, but it is unnecessary to worry about that feature of the problem in the average community until the people themselves have made up their minds that sewerage is an absolute necessity.



CORRESPONDENCE.

Liverpool, N. S. March 14, 1907.
TO THE EDITOR OF THE
MARITIME MEDICAL NEWS:

SIR.—I would like to dot down a few remarks relative to the state of the medical profession when I began practice in 1850. It is interesting to me to recall such events; and the younger generation in perusing it may find food for thought (and perhaps they may be pleasant thoughts) in knowing that their professional lives were not begun under conditions so different from the present.

In looking over the last Medical Register for our province, where 610 names appear, I find that only 3 graduated before me, viz.: Dr. Daniel McNeil Parker in 1854, Dr. Charles Bent in 1847, Dr. Charles Campbell in 1847, and I coming in in 1849.

In 1850 I moved to the small village of Liverpool, and have lived there continuously in active practice to the present time; rarely laying off through sickness, and am in good health and condition now, close upon 83 years of age.

In the matter of travelling, and the scarcity of doctors: for the first two years I travelled entirely on horseback; and my limit was north to Maitland, the extreme north of Queens county, 40 miles; east to LaHave River, and the Islands, 30 miles; west to Lockeport, 38 miles and all the settlements within this radius. Dr. Forbes and I the only practitioners, until we came within the beat of Dr. Snyder at Shelburne, Drs. Steverman and Jacobs at Lunenburg, and Dr. Slocomb at Bridgewater.

In the changes in surgery and obstetrics we can consider them phenomenal. For instance, during my student years, well do I remember

when walking through the wards of Hotel Dieu, the largest and best equipped hospital in Paris, and when the surgeons were men of the highest repute, I followed in the wake of one of these celebrities, and he brought our attention, with great pride and satisfaction to a case of thigh amputation, where "charpie," *i.e.* picked or shredded lint was packed in between the flaps, (a fist full) to prevent close approximation and to cause granulations to spring up and create "laudable" pus, and the more pus exuded, so much more favorable was the result. How crude when compared with our modern treatment! In my earliest professional years laparotomy may have been performed by some surgeon, with more than ordinary courage, and with the most ancient technique, and as might have been anticipated with very rarely a favorable ending. Lopping off limbs without waiting for the conservative efforts of nature was the rule. Lister was no more than a child then if even he was born, and antiseptic treatment was unknown. Anæsthesia was only just being used, and ether was administered in fear and trembling. Venesection was in vogue for the relief of every trivial pain, whether arising from neuralgia, or from inflammatory conditions.

In obstetrics, the treatment then adopted and inculcated should have been relegated to the Dark Ages.

My famous lecturer, Dr. Rambotham, than whom no lecturer stood higher in obstetrics, an oracle in his department, whose book on obstetrics was a text book, and was re-edited very many times, stood up before his large class in London, and we as students on hearing these ominous words on the correct time to use for-

ceps, would exclaim: "Who then may be saved?" These are his expressions which I copy verbatim from his work still on my shelves. "If then the pains are subsiding gradually, or have entirely disappeared—if the strength is failing, the spirits sinking, the countenance becoming anxious, if the pulse is 120, 130 or 140, the tongue covered with a white slime, or dry brown or raspy, if there have been two or three rigors, if on pressing the abdomen there be great tenderness of the uterus, if there be green discharge, if there be preternatural soreness of the vulva with heat and tumefaction of the vagina, if the head has been packed, and has made no progress for six or eight hours, if there be hurried breathing, delirium, or coldness of the extremities, then we are at any rate warranted in having recourse to the forceps." What horrible results must have happened in the practice of those students who in after years when in some country place, with no chance of consultation with a senior practitioner, but with these words ringing in their ears—hesitated until too late to use the forceps, and when all was over thought themselves lucky in having the patient escape with only a vaginal fistula, either rectal or cystic, to be a source of the greatest discomfort to the poor suffering woman for all time; for repairing was not thought of then—and so on ad infinitum.

How much a student of that period like myself had to unlearn! Step by step this line or that line of treatment driven into our brains by the sage lecturer, with almost sledgehammer emphasis, had to be laid aside; and then quickly by reading the wonderful advances in all departments of our noble profession, and by the experiences gained at such hazard. It was a serious task, but necessity was a master which dealt no lenient blows, and we became by experience and severe and persistent

study to correct our ways. And this was no easy task, as after these long and wearisome journeys we were more inclined to seek the couch than pour over voluminous tomes. Still when one's heart and ambition is in his work, the duty becomes less arduous, and many an hour has been snatched from needed sleep to keep abreast of the times.

And here I would strongly advise the present generation of medicos not to be too anxious to buy in a hurry a large library, but procure as necessity calls. Old editions soon become worthless. Old ideas are soon exploded, and consequently such volumes are rarely opened. One yearns for newer ideas. One new volume should always be at hand on the desk to take up at every spare moment, when waiting for an engagement, or for meals, etc. Bright and progressive magazines should be also on hand ready to be stuffed in the pocket to scan over while waiting for development at the patient's house. We thus stop the chances of getting into ruts. We meet our younger medicos (fresh from college) in consultation, armed with knowledge of the latest date and we are thus put in a position of being relegated to the back seat of the "Old School" department.

One's light should be shining brightly to the last, and in his heart of hearts having the strong conviction that it "were better to wear out than rust out."

I have dotted down these desultory remarks only to shew how many advances have taken place in the brief space of a little over half a century.

Perhaps it may be left for some other, when this century begins to wane, to take up the thread and continue it for another half century, shewing even greater advances.

Yours truly,

HENRY G. FARISH.

SOCIETY MEETINGS.

Cumberland Medical Society.

THE annual meeting of the Cumberland County Medical Society at the Amherst Hotel, Feb. 28th, was the most successful one in the history of the Society, a larger number of delegates from the country being present than usual.

Dr. McQueen, President, occupied the chair and Doctors Wardrobe, Munro, MacDougall, Porter, Gilroy and Clay were present from outside with a full contingent from Amherst.

The minutes of the previous meetings were read and approved. Dr. Mackintosh's report as treasurer was received and adopted, showing a balance of \$31.11 in hand.

The election of officers resulted in the appointment of Dr. MacDougall, of Parrsboro, President; Dr. Porter, of Oxford, First Vice President; Dr. Wardrobe, of Springhill, Second Vice-President; Dr. J. R. Smith, Third Vice-President; Dr. J. R. Millar, Secretary, and Dr. Mackintosh, Treasurer.

Dr. McQueen in retiring paid a tribute to the help rendered him by the officers of the Society, and thanked the Society for the very hearty vote of thanks which had been tendered to him. Dr. McQueen referred to the difficulties of keeping local societies together and said that anything he could do to help the new officers and to keep the Society going could be depended upon.

A vote of thanks was also tendered the Secretary for his services, and in reply Dr. Clay said that he fully concurred in the remarks of Dr. McQueen. The difficulties of keeping a local society together were rather larger than the members figured on, and that really it was a case where the few were working for the benefit of the whole.

On motion of Dr. Bliss, seconded by Dr. Porter, it was resolved that this

Cumberland County Medical Society in annual session concur in the appointment of Dr. Clay as Health Officer, and thoroughly approve of the strenuous measures he has taken to stamp out the epidemic of small-pox. Dr. Clay in reply gave a short history of the epidemic, and among other facts brought out the claim that not one of the victims could produce satisfactory evidence of ever having been vaccinated successfully.

Dr. Bliss outlined the course of the epidemic in Amherst in a very concise manner. Dr. Wardrobe of Springhill, (Health Officer) reported 410 cases, all but four discrete. All unvaccinated except two in infancy. Dr. Wardrobe's report was very interesting and was illustrated by a number of photographs taken by himself.

A protest was entered against the method of fumigation in certain parts of the county. On motion of Doctors Bliss and Porter it was resolved that the President, Secretary and Dr. Clay formulate a resolution and forward to Dr. Reid to strengthen his hands with regard to procuring the necessary legislation affecting fees for attendance on small-pox patients and fumigation and mileage.

It was resolved that the insurance and I. C. R. fees stand as they are until the meeting of the Nova Scotia Medical Society in July.

Dr. Porter read a very interesting paper on "Influenza," a paper showing very careful study and reading. This paper will be published in the *MARITIME MEDICAL NEWS*.

Dr. Clay reported two cases of dilatation of the stomach, and Dr. Millar reported a very interesting surgical case.

The meeting closed with a vote of thanks to Mr. Gorman for the use of his rooms, and adjourned to meet in Pugwash in June.

OBITUARY.

DR. J. E. MARCH.

THE sudden death of Dr. John Edgar March, quarantine officer, which occurred on the evening of the 3rd inst., at his home on Partridge Island, was heard with grief and surprise by the citizens of St. John, to practically all of whom he was well known. He was a robust appearing man, of fine physique and splendid vitality.

That morning was a busy one for Dr. March. He had been on board the C. P. R. steamer "Montezuma" and examined her 2,312 passengers, and the 700 on the Donaldson liner "Cassandra." He returned home for dinner, and later went down to the wharf. While talking with some friends there he complained of a numbness in his side, and sat down. Some one remarked that he looked very ill, and he replied, "Yes, I fear it is all over." He no doubt realized the significance of the symptoms. He was assisted to his home and Dr. Scammell summoned. This was about 3 o'clock, and he passed away at half-past six. Hæmorrhage of the brain was the cause of death.

Dr. John Edgar March, eldest son of John and Mary Elizabeth March, was born in St. John on June 21st, 1860. He attended private schools until of age to enter the St. John Grammar School, which he attended under the mastership of James Hutchinson and Edward Manning. He read medicine with the late Dr. Earle of St. John, after which he took a full course at Bellevue Hospital, New York city. After graduation he came to Hampton and began his professional practice. He married Miss Clymene Kaye, daughter of the late Jacob and Mrs. Kaye, of St. John,

and worked up an excellent practice in the North End, then known as the town of Portland. He was very active in political matters for some years, and was appointed port physician by the conservative government, Dr. William Harding being retired from duty but retained in service on a pension until his death. During Dr. March's incumbency all the great works and improvements on Partridge Island have been perfected and carried out under his personal supervision. The burden has always been a very heavy one, and has entailed a great strain upon a system naturally very vigorous. A few years ago he sustained severe injuries from falling from the rail of a steamer to the deck of the quarantine steamer "Neptune" in St. John harbor.

When Dr. March went to Partridge Island, thirteen years ago, it was nothing but a bare rock with two small houses, a whistle house, a light station, and several rotting wharves erected in the old ship fever period, without one sign of material or accommodations sufficient to serve the wants of even one marooned sailor. It is possible that if there had been no Dr. March on that bare rock, planning and discerning the future, there would have been no St. John Winter Port, for what avail would be wharves, elevators and railways without the safeguards a properly equipped quarantine station would ensure?

Dr. March was one of the youngest graduates in medicine who ever secured his degree, and was medical officer of the 8th Hussars before he reached his 21st year. From then onward he had a definite plan mapped out for the perfecting of the militia

medical services; a purpose which he never swerved from, notwithstanding the opposition from small minds whose idea of a military dispensary could be contained in a pill box, or at most a cigar box. He also held the position of P. M. O. of the 8th military district.

We here give one little incident showing the resources and strength of character which marked the man. Some years ago, Dr. Montizambert, Inspector-General of Quarantine was away in Alaska when the government decided that all coastwise vessels must henceforth be subjected to quarantine—a measure rendered necessary by the transmission of disease and distiemination of contagion in all the Atlantic ports. In their emergency, they sent for Dr. March, and after long and close discussion of plans, the department put the whole matter in his hands, and in a few days he had remodelled the quarantine regulations, and made them the most complete and comprehensive rules governing pratique of any government in the world. Dr. March was sent to all the Eastern ports to install the new system, and on his return, the veteran Inspector-General declared that no point had been omitted or left out.

Dr. March was a member of the New Brunswick Medical Society, and read numerous technical papers before that body.

He was an active Mason, being past master of Union Lodge, Portland, and a member of Royal Arch Chapter. He was also a member of the Union Club, and had served on the committee of that institution.

He was a musician of ability both as a composer and instrumentalist on piano and organ. He was organist of the Main Street Baptist church for some years, and was always ready to

assist in every good and philanthropic work. He was also a member of the R. K. Y. C., and took a great interest in its annual outings. He was a member of the Baptist church, but his many other duties had left him little time for church associations. He was a universal favorite in all walks of life and with all classes. He leaves an aged father and mother, three brothers, and a family consisting of his widow, one daughter and three sons.

At a meeting of the St. John Medical Society, a resolution was carried expressing the society's sincere regret at the lamented death of Dr. March. Arrangements were also made for the representation of the society at the funeral, which was largely attended.

*

DR. MASON A. SHEFFIELD.

IN the sudden and unexpected death of Mason A. Sheffield, M. D., St. John lost one of its oldest and most esteemed citizens. Dr. Sheffield was out on both the morning and afternoon of the 30th ult. At 6.15 p. m. he returned to his home, 116 Princess Street, and remarked to the family that he was suffering from a pain in the chest, which he supposed had been caused by quick walking. Immediately afterward he retired to his room and went to bed. Mrs. Sheffield fearing that her husband was ill, went to his room and asked him if he felt better. Dr. Sheffield replied in the negative. Dr. P. P. Inches and Dr. Thomas Walker were called at once. A few minutes after their arrival, Dr. Sheffield passed away.

The late Dr. Mason A. Sheffield was born in Cornwallis, N. S., in March, 1837. His education was begun at Wolfville Academy, and continued at Dalhousie University.

where he studied medicine under the late Dr. Almon. His medical course was finished at Bellevue Hospital, New York, where he took his degree. Shortly after the War of Secession, he began his medical work in hospitals in Washington and New York. Some time afterward he removed to Berwick, N. S., and there practiced his profession for five years. While living in Berwick, Dr. Sheffield was married to Miss Beckwith of Cornwallis. In the year 1872 he removed to St. John, where he has lived ever since.

Dr. Sheffield is survived by his widow, formerly Mrs. G. M. Clark, of Halifax, to whom he was married in April of 1900. His first wife died in 1894, three years after the death

of the only son, Harry.

Among the members of his profession, Dr. Sheffield was held in the highest esteem both as a physician and as a man. For over thirty years he was a trustee of Queen Square Methodist church and also a regent of Mount Allison College. At one time he occupied the position of director of the St. John Gas Company. Dr. Sheffield's disposition was rather retiring and studious, and he naturally belonged to no fraternal or secret societies. He was, however, a member of the St. John Medical Society and the New Brunswick Medical Society.

* * * * *

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PERTINENT THOUGHTS.

The epidemics of la grippe which have made their annual onslaughts for some years, have taught us that this disease, once considered of no serious consequence, is so dangerous and difficult to treat, that any suggestion regarding medication is always gratefully received.

With each succeeding visitation of this trouble, we have found it more and more necessary to watch out for the disease in disguise, and to treat these abnormal manifestations; consequently we have relied upon mild nerve sedatives, anodynes and heart sustainers, rather than upon any specific line of treatment. Most cases will improve by being made to rest in bed and encouraging action of skin and kidneys, with possibly minute doses of blue pill or calomel. We have found much benefit from the use of Antikamnia & Codeine Tablets in the stage of pyrexia and muscular painfulness. This tablet, containing $4\frac{1}{2}$ grs. antikamnia and $\frac{1}{4}$ gr. sulphate of codeine, is a sedative to the respiratory centres. In the treatment of la grippe and its sequelae, its value is highly esteemed. In diseases of the respiratory organs following an attack of la grippe, pain and cough are the symptoms which especially call for something to relieve. This combination meets these symptoms, and in addition, controls the violent movements accompanying the cough. To administer these tablets in the above conditions, place one tablet in the mouth, allowing it to dissolve slowly, swallowing the saliva. Exhibited in the grinding pains which precede and follow labour; in the uterine contractions which often lead to abortion, in the various neuralgias, and in all neuroses due to irregularities of menstruation, this combination affords immediate relief. In these last conditions, always instruct that tablets be crushed before taking.



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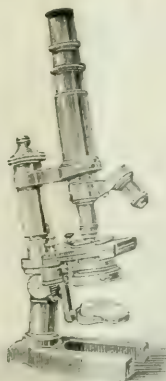
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SCURVY: THERAPEUTIC POINTS.

By W. C. ABBOTT, M. D., Chicago, Ill.

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Citric acid beverages are of value, though not by a good deal as useful as the fresh fruit juices with their living protoplasm.

All acids have some effect in restraining the tendency to tissues breaking down, and are better than doing nothing.

The prostration is combated by any salt of quinine, but large doses must be avoided as they may break down enfeebled blood cells.

Atropine in full doses restrains the salivation, and this is a valuable resource, since salivation indicates the tendency to tissues perishing.

Ruminoin, the concentration from yellow dock, *rumex crispus*, has proved of decided benefit, and may be employed also as a preventive; 2 grains a day.

Scurvy is now more likely during long fevers where the diet is closely restricted; in typhoid especially and in dyspepsias.

Raw fish and the raw blood of birds have saved the lives of persons afflicted with scurvy, as well as the fruit acids.

Any non-toxic plant is a remedy for scurvy, and most effective if eaten raw, while the protoplasm is yet living.

While not specific, any tissue toner delays the progress of the disease; strychnine, brucine, quassin, berberine, hydrastine, etc.

This is the disease to be treated by an optimist; in no other is pessimism so surely and speedily fatal.

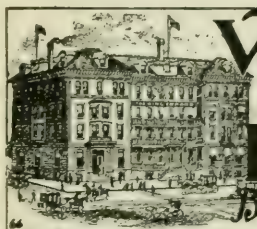
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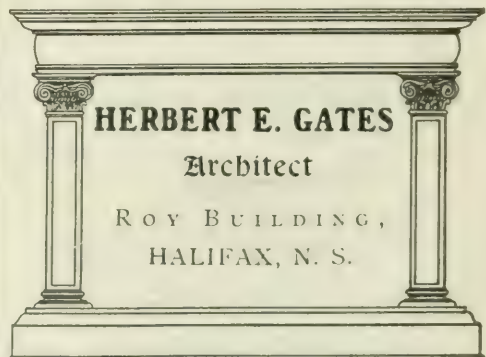
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